CLAIMS

What is claimed is:

1. A modulated radio frequency carrier capable of transmitting a binary information stream made up of first and second binary states comprising:

a carrier frequency waveform made up of a continuous sequence of wavelets;

said wavelets being defined by a 360 degree cycle between crossover positions;

said crossover positions representing a substantially zero energy level; and,

said wavelets having been modulated in accordance with said information stream by having altered the frequency of said wavelets corresponding to said first binary states of said information stream and not having altered the frequency of said wavelets corresponding to said to said second binary states of said information stream.

2. The modulated radio frequency carrier of claim 1 wherein:

any harmonics of said modulated radio frequency carrier that were generated when said wavelets were altered have been reduced by filtering.

3. A method for transmitting binary information from a binary information stream over a radio frequency carrier comprising the steps of:

generating a radio frequency carrier at a select carrier frequency such that said radio frequency carrier has a waveform with a continuous sequence of wavelets with similar amplitudes;

said wavelets being defined by a 360 degree cycle between crossover positions of said radio frequency carrier waveform;

said crossover positions representing a substantially zero energy level;

receiving said information stream as a binary data sequence of first and second binary states;

modulating said radio frequency carrier in accordance with said binary data sequence by altering the frequency of said wavelets corresponding to said first binary states to derive first carrier binary signals and not altering the frequency of said wavelets

corresponding to said second binary signals to derive second carrier binary states thereby generating an integer cycle modulated carrier made up of said first carrier binary signals and said second carrier binary signals; and,

broadcasting said integer cycle modulated carrier such that a integer cycle modulated radio frequency signal is generated.

4. The method of claim 3 wherein:

the modulating of said radio frequency carrier is carried out by altering the frequency of said wavelets while minimizing sideband distortions of said radio frequency carrier.

5. The method of claim 3 wherein:

the generation of said radio frequency carrier is accomplished by a local oscillator having an oscillator output at a select carrier frequency.

6. The method of claim 3 comprising the additional step of:

reducing of harmonics from said integer cycle frequency modulated carrier by filtering said integer cycle frequency modulated carrier.

7. The method of claim 3 wherein:

broadcasting said integer cycle frequency modulated carrier is accomplished using a Time Division Multiple Access system such that Time Division Multiple suppressed cycle modulated radio frequency signals are broadcasted.

8. The method of claim 3 wherein:

broadcasting said integer cycle frequency modulated carrier is accomplished using a Frequency Division Multiple Access system such that Frequency Division Multiple suppressed cycle modulated radio frequency signals are broadcasted.

9. A method for receiving radio frequency transmitted binary information that was derived from a binary information stream composed of a binary data sequence of first and second binary states that was modulated onto a radio frequency carrier which has a waveform with a continuous sequence of wavelets with similar amplitudes defined by a

360 degree cycle between crossover positions representing a substantially zero energy level in which the radio frequency carrier has been modulated in accordance with said binary data sequence by altering the frequency of said wavelets corresponding to said first binary states to derive first carrier binary signals and not altering the frequency of said wavelets corresponding to said second binary states to derive second carrier binary signals thereby generating an integer cycle frequency modulated carrier made up of said first carrier binary signals and said second carrier binary signals such that an integer cycle frequency modulated radio frequency signal was generated and broadcasted comprising the steps of:

receiving said integer cycle frequency modulated radio frequency signal through an antenna responsive to said carrier radio frequency signal;

extracting said integer cycle frequency modulated carrier from said integer cycle frequency modulated carrier radio frequency signal received by said antenna;

demodulating said integer cycle frequency modulated carrier by detecting the respective frequencies of said wavelets to identify said first binary states and said second binary states corresponding with said first carrier binary signals and said second carrier binary signals; and,

reconstructing said binary data sequence from said first binary states and said second binary states resulting in regeneration of said information stream.

10. The method of claim 9 wherein:

broadcasting and receiving said integer cycle frequency modulated carrier is accomplished using a Time Division Multiple Access system such that Time Division Multiple integer cycle frequency modulated radio frequency signals are broadcasted and received.

11. The method of claim 9 wherein:

broadcasting and receiving said integer cycle frequency modulated carrier is accomplished using a Frequency Division Multiple Access system such that Frequency Division Multiple integer cycle frequency modulated radio frequency signals are broadcasted and received.

12. A method for transmitting binary information from a binary information stream over a radio frequency carrier, receiving the radio frequency carrier, and converting the transmitted binary information back into an information stream comprising the steps of:

generating a radio frequency carrier at a select carrier frequency such that said radio frequency carrier has a waveform with a continuous sequence of wavelets with similar amplitudes;

said wavelets being defined by a 360 degree cycle between crossover positions of said radio frequency carrier waveform;

said crossover positions representing a substantially zero energy level;

receiving said information stream as a binary data sequence of first and second binary states;

modulating said radio frequency carrier in accordance with said binary data sequence by altering the frequency of said wavelets corresponding to said first binary states to derive first carrier binary signals and not altering the frequency of said wavelets corresponding to said second binary states to derive second carrier binary signals thereby generating an integer cycle frequency modulated carrier made up of said first carrier binary signals and said second carrier binary signals;

broadcasting said integer cycle frequency modulated carrier such that an integer cycle frequency modulated radio frequency signal is generated;

receiving said integer cycle frequency modulated radio frequency signal through an antenna responsive to said carrier radio frequency signal;

extracting said integer cycle frequency modulated carrier from said integer cycle frequency modulated carrier radio frequency signal received by said antenna;

demodulating said integer cycle frequency modulated carrier by detecting the respective frequencies of said wavelets to identify said first binary states and said second binary states corresponding with said first carrier binary signals and said second carrier binary signals; and,

reconstructing said binary data sequence from said first binary states and said second binary states resulting in regeneration of said information stream.

13. The method of claim 12 wherein:

the modulating of said radio frequency carrier is carried out by altering the frequency of said wavelets while minimizing sideband distortions of said radio frequency carrier.

14. The method of claim 12 wherein:

the generation of said radio frequency carrier is accomplished by a local oscillator having an oscillator output at a select carrier frequency.

15. The method of claim 12 comprising the additional step of:

reducing of harmonics from said integer cycle frequency modulated carrier by filtering said integer cycle frequency modulated carrier.

16. The method of claim 12 wherein:

broadcasting and receiving said integer cycle frequency modulated carrier is accomplished using a Time Division Multiple Access system such that Time Division Multiple integer cycle frequency modulated radio frequency signals are broadcasted and received.

17. The method of claim 12 wherein:

broadcasting and receiving said integer cycle frequency modulated carrier is accomplished using a Frequency Division Multiple Access system such that Frequency Division Multiple integer cycle frequency modulated radio frequency signals are broadcasted and received.